2. A Hands-on tour round the Cochrane Library

Outcomes

After completing this section you should be confident enough to: -

- *navigate your way round the application to find and view information on the Cochrane Collaboration, reviews , controlled trials and reviews methodology in each of the databases in the Clib.*
- *understand the functions of the menu items and the actions of the command and option buttons*
- *understand the various types of information contained in each of the databases*
- *understand how to print information from the application*

2.1 Databases in the Cochrane Library

The Cochrane Library itself comprises several individual databases:

- The Cochrane Database of Systematic Reviews
  - *Completed reviews*
  - *Details of protocols regitered with the Cochrane Collaboration*
- CRD Database of Abstracts of Reviews of Effectiveness
  - *Abstracts of quality assessed systematic reviews*
  - *ACP Journal Club: abstracts of reviews*
  - *Other assessed reviews: bibliographical details only*
  - *Other reviews: bibliographical details only*
- Cochrane Controlled Trials Registers (CCTR) and CENTRAL
  - *References*
  - *Medical Editors Trial Amnesty*
  - *About CCTR*
- Cochrane Review Methodology database
- About the Cochrane Collaboration - including
  - *Collaborative Review Groups*
  - *Fields and methods groups and networks database*
  - *Cochrane centres*
  - *Sources of support*
- Other sources of information
  - *Netting the Evidence*
  - *INAHTA technology assessments: author abstracts*

Each of these is briefly described below.

The Cochrane Database of Systematic Reviews
A database of structured reports of systematic reviews of the effects of health care interventions. Some 481 completed reviews are included (October 1998) and 438 protocols of reviews under preparation.

CRD DARE database
Produced by the NHS Centre for Reviews and Dissemination at the University of York, DARE complements the Cochrane Systematic Reviews with further structured abstracts of good quality systematic reviews . DARE is an international register of quality assessed published research reviews of the effectiveness of health interventions, and the management and organisation of health services. DARE contains over 1800 records comprising:

- Structured abstracts - Abstracts assessing and summarising previously published systematic reviews judged to be of good quality. **Details of the structure of DARE records and how they are compiled can be found in the CLIB help text screens**.
- Other assessed reviews - these reviews have been assessed by the NHS Centre for Reviews and dissemination but have not met all of their assessment criteria; they are included as useful bibliographic references for further systematic reviews.
- ACP Journal Club abstracts of reviews - Abstracts of reviews produced by the American College of Physicians Journal Club up to the end of 1994
- Source records - references to other published systematic reviews. These reviews in general have not been quality assessed by the Centre for Reviews and Dissemination.

Cochrane Controlled Trials Register and CENTRAL
CENTRAL and CCTR include references to clinical trials compiled by the Cochrane Review Groups. CENTRAL also contains references to other studies that might be relevant for inclusion in Cochrane reviews. Records in both CENTRAL and CCTR include their MEDLINE or EMBASE accession numbers where available. MeSH keywords have also been included for many of the records.

The records for CENTRAL and, therefore, CCTR have primarily been identified through hand searching of journals within the Cochrane Collaboration. They include records from the specialised registers of trials that are maintained by the Collaborative Review Groups (CRGs), records supplied from elsewhere, both inside and outside of the Collaboration, and references to clinical trials identified on MEDLINE and EMBASE.

CENTRAL will be over-inclusive. It will contain reports of studies that are found not to be relevant for inclusion in Cochrane reviews. It is also likely to contain duplicates and errors but it should be searched by all those within the Collaboration who need to identify studies for possible inclusion in Cochrane reviews.

The Cochrane Controlled Trials Register (CCTR) is the 'clean' version of CENTRAL. It is a list of references to controlled trials in health care and contains those records in CENTRAL which have been judged to meet the necessary quality criteria. These are assigned the key-word CCTR. At the moment, this means records that are very likely to be reports of randomised or quasi-randomised trials. Those who would like to search only those records in CCTR can do so, by simply adding 'AND CCTR' to their search strategy. This will increase the precision of the search, since it will be restricted to the set of records which are most likely to be randomised or quasi-randomised trials.

CENTRAL and CCTR are not included on the disk-based edition of The Cochrane Library.

Medical Editors Trial Amnesty
To minimise the effects of biased reporting, systematic reviews need to be based on as high a proportion as possible of relevant studies. Because of the potentially important health care consequences of excluding relevant unreported trials, many of the world's major medical journals, including the BMJ, The Lancet, and Annals of Internal Medicine, have joined together in calling an amnesty for unpublished trials. The amnesty was launched on 19 September 1997 at the International Congress on Biomedical Peer Review in Prague, and many journals are carrying an editorial urging registration of unreported trials. This is the first batch of un-reported trials that have been notified to editors, etc. In this release of this section there are contact details for 150 un-published trials.

About the CCTR
Lists search tags used in coding the CCTR which are useful in searching the Cochrane Trials Registers, contacts details and contributors

Cochrane Review Methodology Database
This bibliography is intended to help those who are new to the science of reviewing to find additional material of interest, and those who are already immersed in it to find something new. The intention is to include all published reports of empirical studies of methods used in reviews, as well as methodological studies that are directly relevant to doing a review, such as empirical studies of the association between research methods and bias in randomized controlled trials.

About the Cochrane Collaboration - Collaborative Review Groups
Details of the Review Groups in the Collaboration, including their status, contact details, editorial and other supporting contributors, support funding, scope of the group and planned reviews and details of the search strategies used in compiling the specialised registers.

About the Cochrane Collaboration - Fields and methods working groups and networks
Brief details of each of these three entities in the Collaboration

About the Cochrane Collaboration - Cochrane Centres
Brief details of the Cochrane Centres

Other sources of information

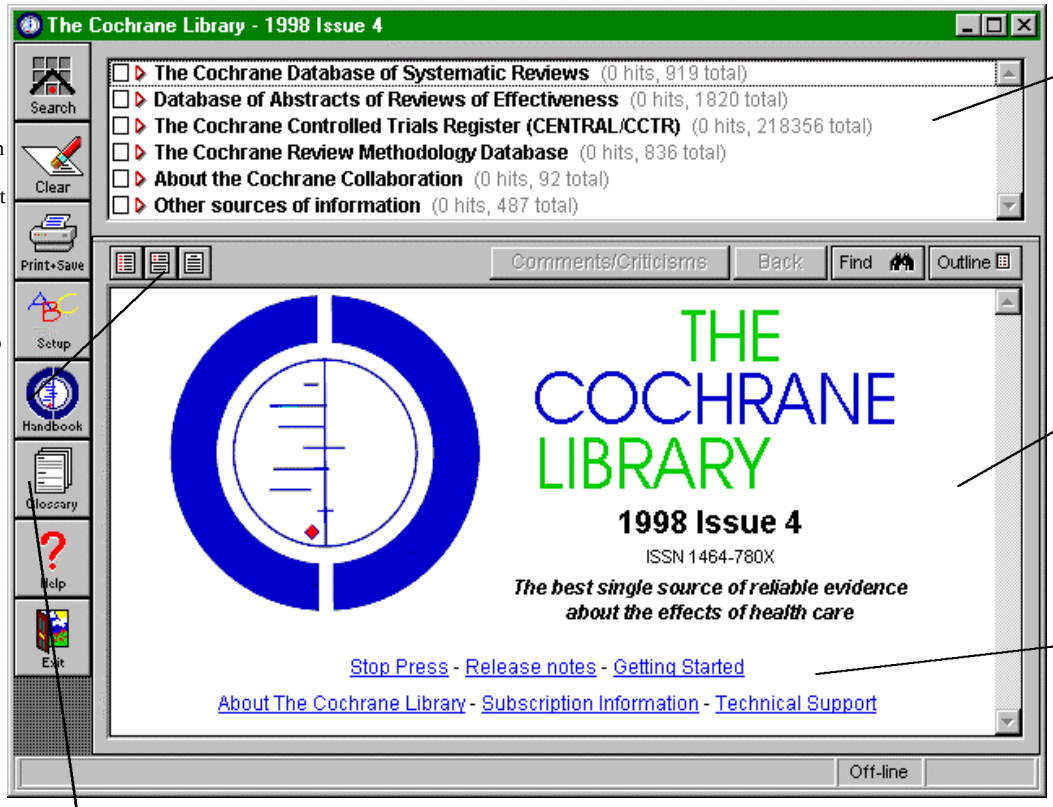
The internet
Netting the evidence: the SCHARR guide - Non-CRD/Cochrane information which may still be of interest to those using reviews in their work. This is a guide to Internet resources of relevance to evidence based medicine compiled by Andrew Booth from the Sheffield University School of Health and Related Research.

The Cochrane Collaboration on the internet - a small list of some of the Cochrane sites on the WWW.

INAHTA technology assessments: author abstracts - References to reports of technology assessments prepared by members of the International Network of Agencies for Health Technology Assessment (INAHTA), many with structured abstracts. This database is compiled by the NHS Centre for Reviews and Dissemination.

2.2 The Opening Screen

Figure 2.1 below shows the screen when you first open the Cochrane Library



These buttons adjust the proportion of the screen that the index and document windows take up in relation to each other.

The different databases which make up the Cochrane Library are displayed in the index window. The numbers represent the number of records in each section

Documents, once selected will be displayed in this document window.

Double click on these items for some simple help text.

The toolbar has buttons which perform the functions indicated.

Watch the status bar for tips on keyboard and mouse shortcuts

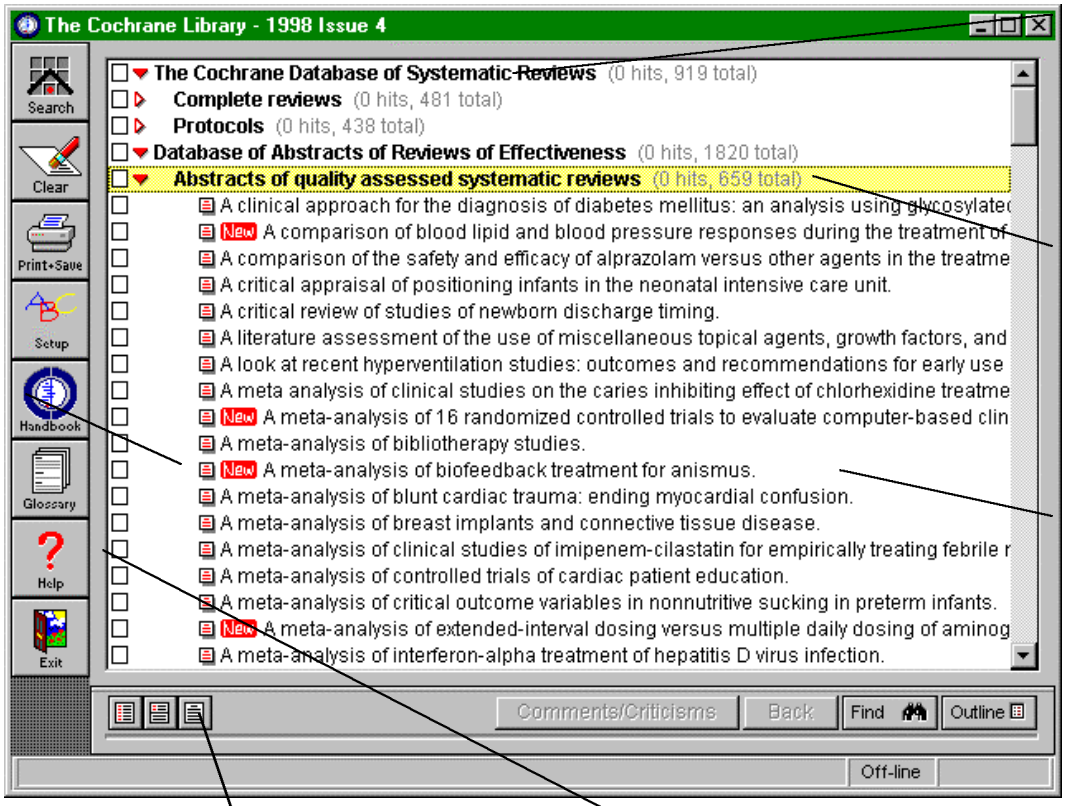
The opening screen can be divided into three, the index window, document window and tool bar. The index window displays the titles of the different databases which make up the Cochrane Library.

2.3 The index window

The index window can be expanded to make it easier to view (see figure 2.2). It is possible to browse the titles of items in the Cochrane Library, as explained below.

Double click on the database titles or the red arrow; they will expand to show you the sub sections in each database (if any). Double click on a sub-section and it expands to show you the titles of individual items. New or substantially updated items are flagged as such. Double clicking again will collapse a database. Documents can be tagged by clicking on the box on the left. Tagged items in the index window can be selectively printed or saved to file.
Once selected, the documents are displayed in the document window. See section 2.8 for more details of this.

Figure 2.2 The index window expanded



New or substantially updated items are highlighted

If you double click on the database titles or the red arrow, they will expand to show you the sub-sections (if any). Double click again to collapse the view.

Double click on a sub-section and it expands to show you the titles of the individual items.

Double click on an individual title to make it appear in full, in the document window below.

Click here to restore the document window

Documents can be tagged by clicking on this box. Tagged items in the index window can be selectively printed or saved to files.

2.4 The tool bar

The left hand button bar in the Cochrane Library opening screen gives access to help and a range of ancillary information about the databases organisation and entities in the Cochrane Collaboration

Search

Opens the search screen

Clear

this will clear results from previous searches, before you start a new one. It will clear tagged records (those you wanted to print) as well.

Printing

Print options allow you to either print or save the contents of the index window or print the current document in the document window. You can also select to print out the records you have previously marked, in long or short form.

Setup

This option allows you to configure certain aspects of the Cochrane Library.

Glossary of terms

A useful glossary to some of the common terms used in systematic reviews and the Cochrane Collaboration.

The Cochrane Collaboration Handbook

This is not a guide to using the Cochrane Library, but the Handbook or manual on conducting systematic reviews, written by those at the Cochrane Collaboration. It also contains background information on the Cochrane Collaboration itself.

Help text

Like many windows based help functions this gives extensive help in using all parts of the Cochrane Library together with tips on searching. It also has background information on the different databases.

Exit

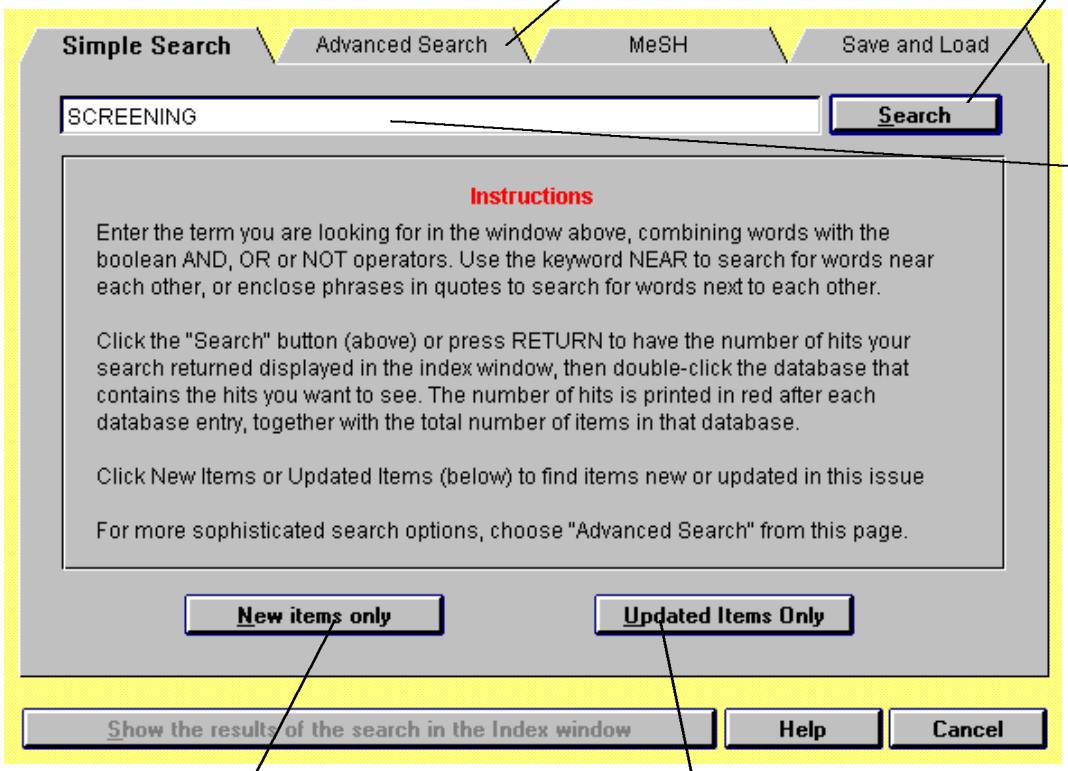
To leave the Cochrane Library

2.5 Searching the Cochrane Library

We will firstly deal with simple searching. You cannot choose which database to search in the Cochrane Library; searches are run against all databases and you are presented with a list of results against each database.

Click on the search button on the button bar. You will be presented with the following search options:

Figure 2.3 The simple search screen



Click on these tabs to switch between search options. Advanced and saved searches are covered later in this section.

After entering your search, click the search button to start your search.

Enter the word(s) you want to search on here. All databases are searched and you will be returned to the index window with the numbers of hits displayed in red.

You can truncate with a '*' (arter* will retrieve arterial, artery, etc.)

You can enter several terms, the order is not important; Clib will search for documents containing all of the terms (anywhere in the document, not necessarily adjacent).

Use quotation marks to look for adjacent terms; compare searching for - ambulatory blood pressure - with "ambulatory blood pressure".

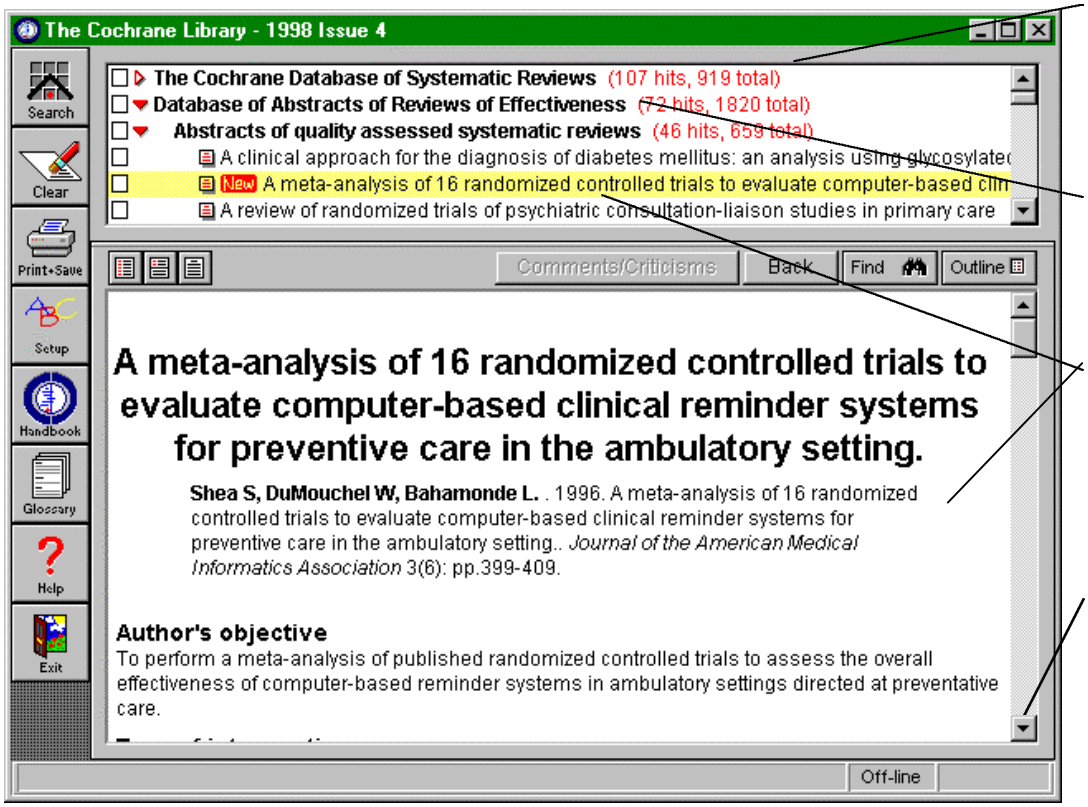
Use this button to search for new items only.

This button will search for only items which have been substantially updated since the last issue.

All text is searched (e.g., titles, abstracts, authors names, citations, keywords). Titles are selected only if ALL search terms are found in the **text** of the record (i.e., words are combined with "and"). Word order and case are ignored. Punctuation and numbers other than years are ignored. Words must be three characters or longer, and words of 16 characters or more will be truncated.

In the figure above, the search “screening” has been entered. The search is started by pressing the search button or carriage/return. This returns you to the index/document window which will display how many hits you have found (see figure 2.4).

Figure 2.4 Search results in the index window



Numbers of hits for each database are shown e.g. 107 hits out of a possible 919 records in CDSR.

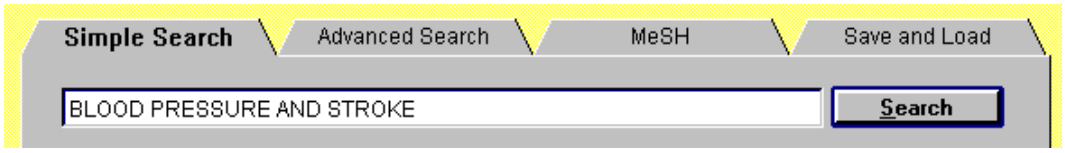
Double click the database headings to show the individual documents. Double click again to collapse the view.

Double click the document titles to display in the document window.

Use the scroll buttons to move further down the document. To move between documents click with the mouse on the titles in the index window.

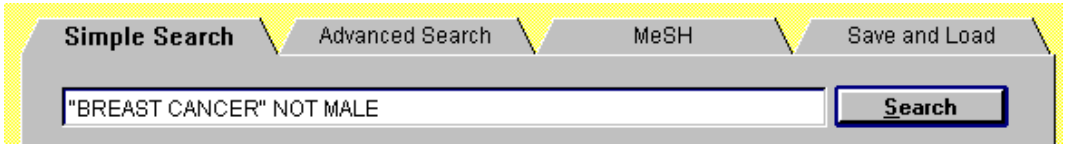
Combining terms: narrowing down your search

Multiple terms may be entered in the simple search window in order to find documents more specific to your requirements. The order is not significant. Clib will retrieve documents containing **all** the words entered, which is equivalent to using boolean "AND". The search below is equivalent to "BLOOD" AND "PRESSURE" AND "STROKE". Note that the order of words is irrelevant and that Clib will match words in documents wherever they occur - it does not match the whole 'phrase' (see below).



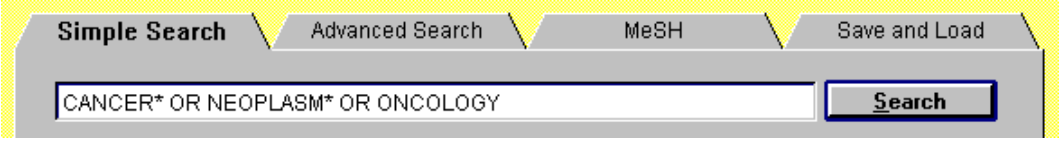
You can also truncate terms by ending them with "*" - i.e. if you enter "ARTER*" you will retrieve "ARTERIAL", "ARTERIES", etc. (There is no left hand truncation).

The "NOT" operator can also be used to exclude records from your search.



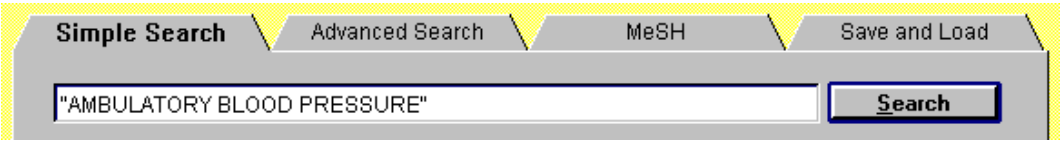
Combining terms: broadening your search

You can use the Boolean operator "OR" in you searches to broaden out your search. This is useful if there is more than one word used for the same thing.



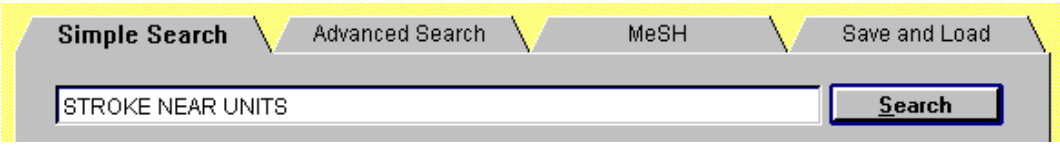
Phrases and word proximity

Another way to make your search more specific is to search for a phrase combining several words eg. AMBULATORY BLOOD PRESSURE or MYOCARDIAL INFARCTION by placing the words used inside double quotes in the search box (see below). This will produce a different result to searching without the quotes because it will be interpreted as "AMBULATORY next to BLOOD next to PRESSURE" and will retrieve documents which contain that phrase.



An alternative way to restrict searching is by using the **near** operator, which acts like **and** with the added condition that the entered terms must appear within six (6) words of one another.

When two search terms are joined using the **near** operator, records will only be retrieved if the second word occurs within six words either side of the first. For example, entering *stroke near units* will result in records being retrieved where *units* occurs within six words of *stroke*.



How the Cochrane Library deals with multiple terms

When conducting a search using more than one word, several rules apply:

1. All text is searched (e.g., titles, abstracts, authors names, citations, keywords).
2. Word order and case are ignored.
3. Stop words are ignored (e.g. 'a', 'the', 'it')
4. All numbers are ignored (use the Advanced Search, 'Restrict date range' facility to limit a search by date).
5. Punctuation at the beginning and end of words are ignored (e.g. apostrophes).
6. Words must be three characters or longer.
7. An asterisk (*) entered at the end of a word retrieves all words beginning with the entered search term
8. An asterisk (*) entered alone retrieves all records (this is useful in the Advanced Search when you want to retrieve all records within a certain date range)

9. Hyphens appearing in journal names and MeSH terms are used to keep words together (Note: enter the hyphen between words when doing a search, but do not enter leading hyphens or asterisks)
10. The search is 'read' from left to right unless parentheses are used to group words: All records containing the first word entered are retrieved, then all records containing the second word, and so forth.
11. By default, records are selected only if all the entered search terms are found in the text of the record. That is, all words entered in a single search are by default combined using the Boolean AND (e.g., *stroke unit* is equivalent to *stroke and unit*)

You may enter 'OR' between words to select records containing either the earlier word(s) or the current word.

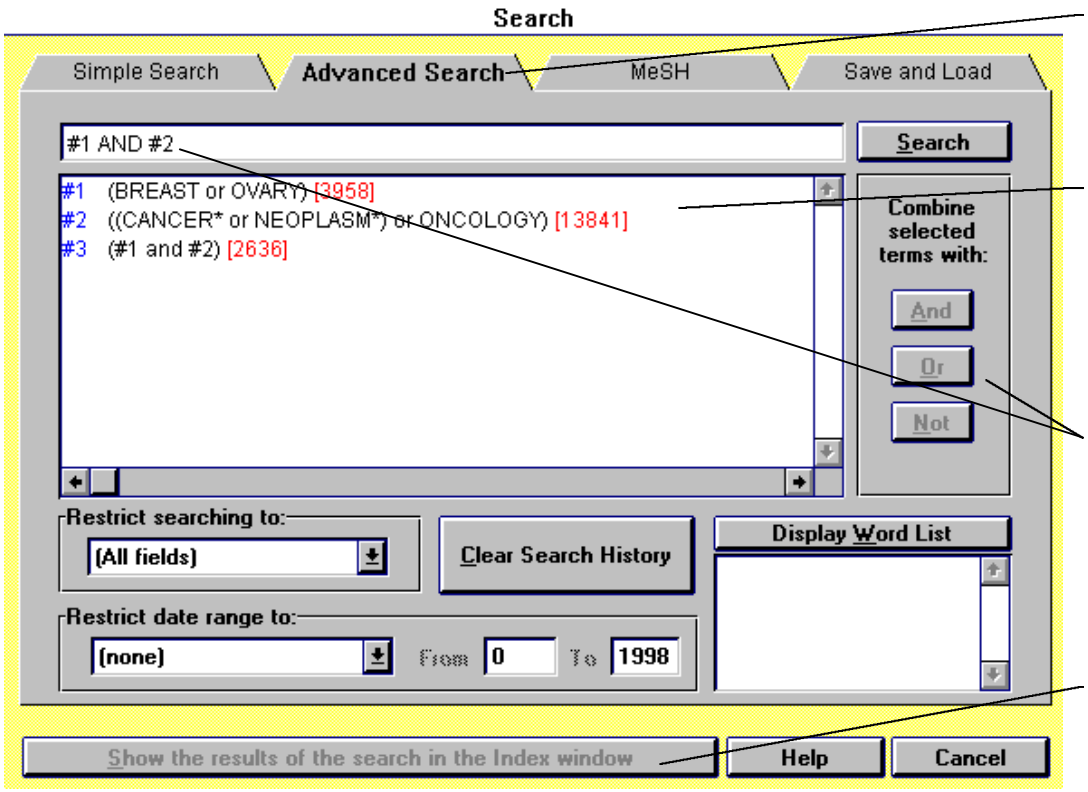
2.6 Advanced searching in the Cochrane Library

The advanced search option in the Cochrane Library allows you to build up more complex queries step by step, store the results of each search in a set and then combining the sets. The advanced search screen also gives you access to some additional features, covered below.

Combining several terms with "AND" and "OR"

The new advanced search option allows more complex searches to be built up in stages, the results of each stage being saved in a numbered set, resulting in fewer surprises in retrieval.

Figure 2.5 The advanced search screen



This tab presents the advanced search options.

Several separate searches can be entered and the results are stored as numbered 'sets'. The number of hits (across all databases) for each set is shown in red.

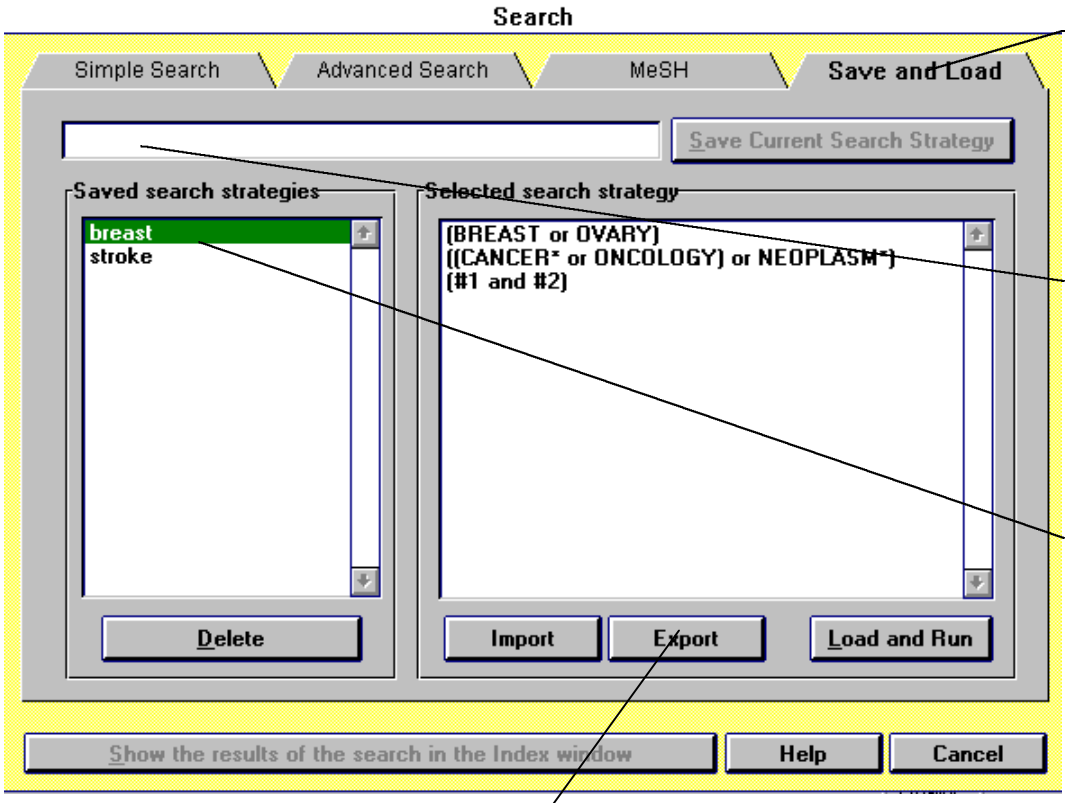
Sets can be combined by selecting them with shift-mouse or ctrl-mouse and choosing AND, OR, NOT. Alternatively the set numbers can be entered manually in the search box.

Highlight the desired set and click here to view the results of that set.

The above search is equivalent to "(BREAST OR OVARY) AND (CANCER OR ONCOLOGY OR NEOPLASM)"

Saved searches can be stored on your hard disk and can be re-run after updates of your CD-ROM. To do this click on the 'save and load' tab.

Figure 2.6 Save and load screen



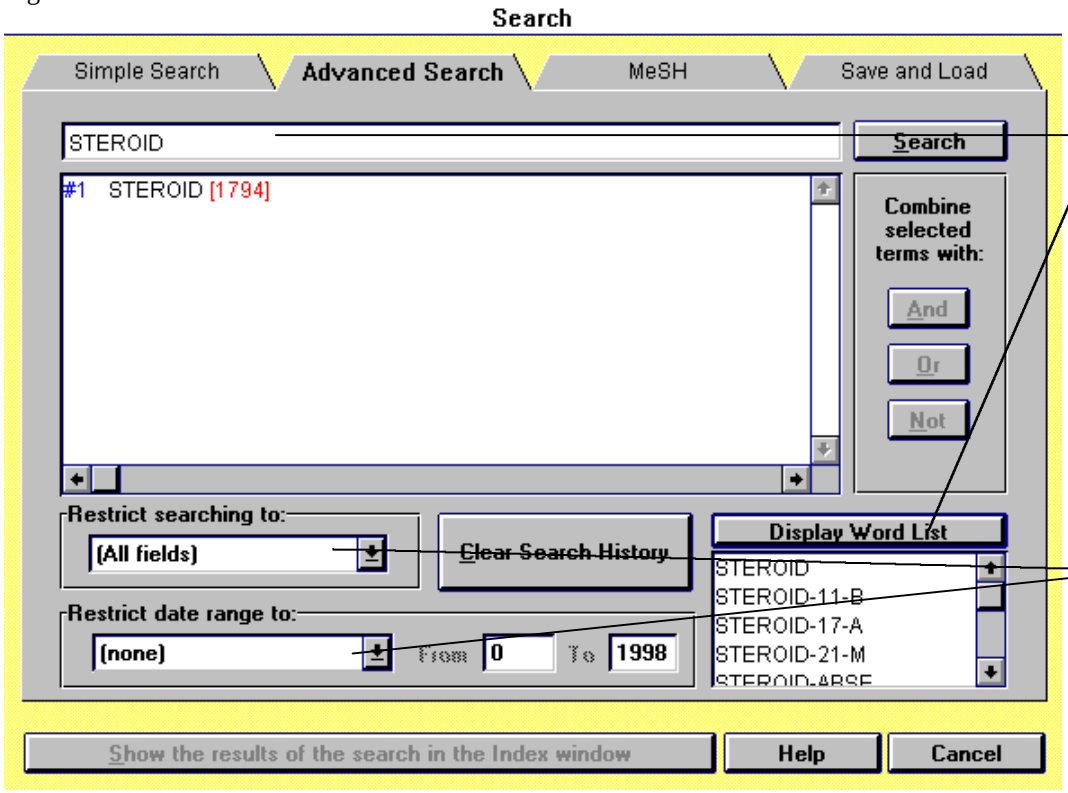
The save and load tab allows you to store your strategy on your local hard disk and reload it at a later date.

Once you enter a name for a search strategy and save it, the name will be added to the list below.

You must use different names for each saved search!

Issue 2, 1998 introduced the facility to import and export searches to/from the Cochrane Library, which is useful if you need to run the same search on more than one database

Figure 2.7 Other features of the advanced search screen.



The word list allows you to enter a single term in the search box and view index entries using that 'stem'. This may help suggest alternative terms.

Searches can also be restricted to a particular field, or to a specific date range. These two features may help to narrow down your search

2.7 MeSH thesaurus searching in the Cochrane Library

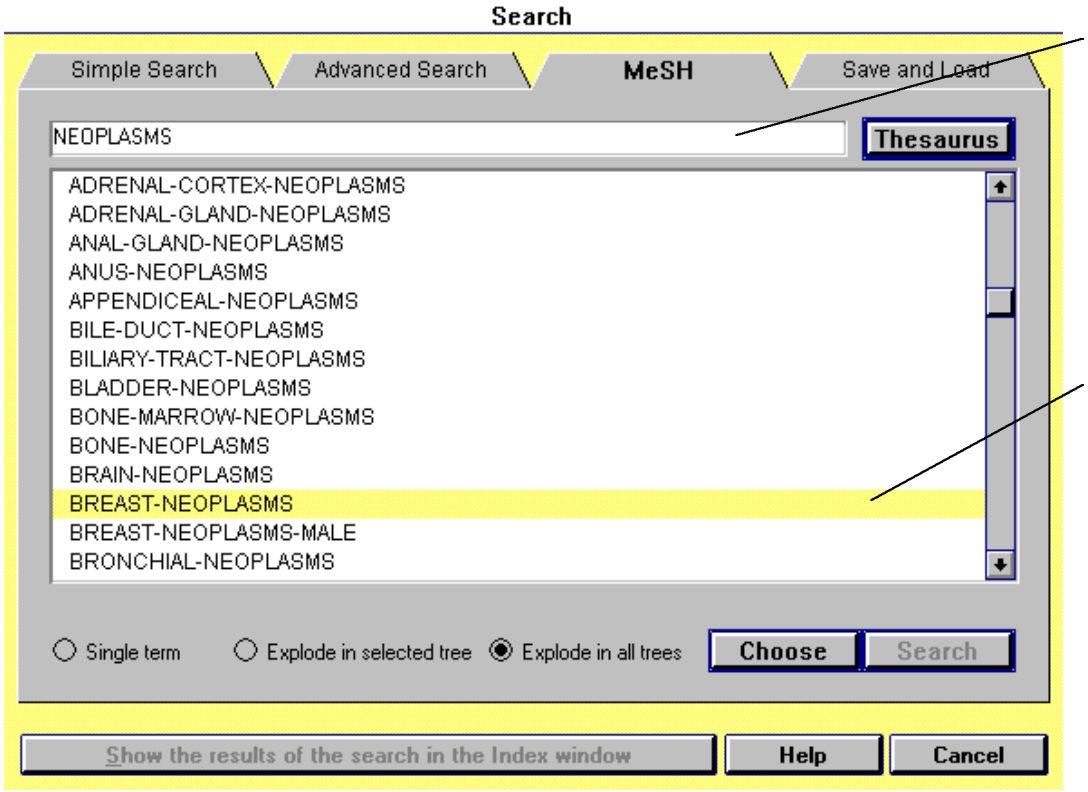
Keywords drawn from the MeSH Thesaurus published by the U.S. National Library of Medicine have been attached to many, but not all, records in the Cochrane Library. For this reason, it is necessary to do a text search, as well as a MeSH search to carry out a complete interrogation of the Cochrane Library.

The MeSH Thesaurus is organised hierarchically in 'trees', with the lower levels of the trees containing more specific terms. The MeSH search option allows searching the database using the MeSH terms and tree structures.

Step 1: Using the Permuted Index
The Permuted Index is an index of all the words that appear in the MeSH thesaurus. It is used to locate specific MeSH headings:

- Open the MeSH search screen by clicking on the MeSH tab at the top of the screen.
- Open the Permuted Index by entering **one** word and clicking Thesaurus. All MeSH headings containing the word will then be displayed, in alphabetical order.
- Locate the specific MeSH term you are interested in. Some terms are followed by 'see' cross-references. Double-click on these terms to jump to the cross-referenced section of the Permuted Index.
- Double-click on a MeSH term to display the MeSH tree(s) containing that term.

Figure 2.8 The MeSH search screen



The permuted search window lets you enter a single term, e.g. 'neoplasms'. It then returns all the terms containing that term.

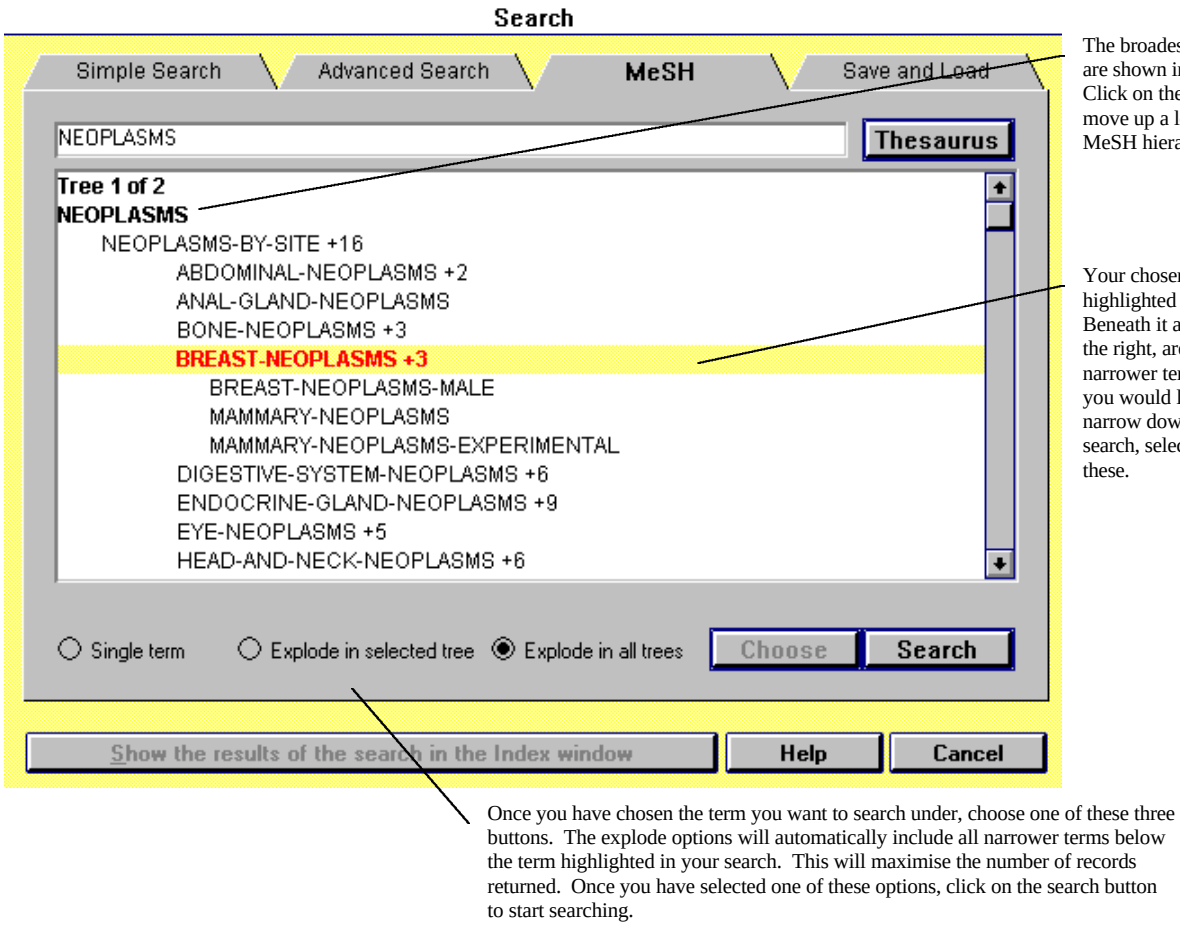
All the terms containing the word 'neoplasms' are listed alphabetically. Double clicking on one of the terms, or selecting it and clicking on the choose button below, will take you to the MeSH tree displays.

Step 2: Traversing MeSH trees

The MeSH tree(s) containing the selected MeSH heading are displayed once a heading has been selected from the Permuted Index. The MeSH trees allow expanding or narrowing the scope of the search, by selection of broader or narrower terms.

- To move up to a more general level in a MeSH tree, double-click on a term higher in the tree. Higher level terms are shown in bold.
- The more specific terms are displayed immediately underneath, and just to the right of your selected term; When other terms have more specific terms, this is represented by a number in parenthesis after the term, e.g. (+3). The number indicates how many headings appear lower in the tree. If there is no number, the term can not be expanded.

Figure 2.9 MeSH tree display



Step 3: Search

The final step is to search the database using the MeSH term selected. There are 3 search options:

1. To search on the exact term, click **Search This Term**.
2. To search on the term and all lower level terms in all MeSH trees containing the term, click **Search & Explode All Trees**.
3. To search on the term and all lower level terms in the specific MeSH tree displayed, click **Search & Explode This Tree**.

Search & Explode This Tree

A MeSH term may appear in many MeSH trees. Esophageal Cyst, for example, occurs in both the Esophageal Diseases tree and the Neoplasms tree. The Explode this tree search will retrieve records indexed with the selected term and all other terms appearing lower in the particular MeSH tree from which the term was selected.

Search & Explode All Trees

A given MeSH term may appear in many MeSH trees. Esophageal Cyst, for example, occurs in both the Esophageal Diseases tree and the Neoplasms tree. The Explode all trees search will retrieve not only the records indexed with the entered term, but also all records indexed with terms appearing lower than the entered term in all MeSH trees containing that term.

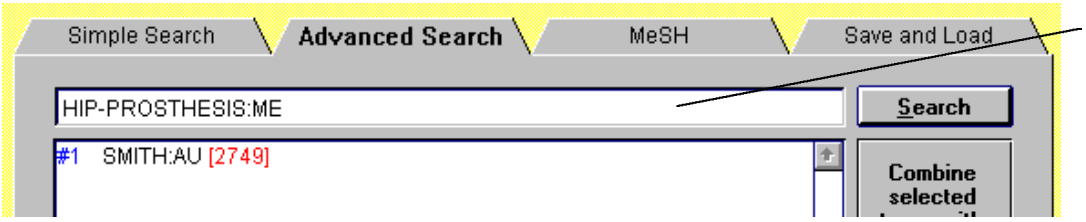
Once you have selected which way you want to search, click on the search button and the system will search and return you to the advanced search screen. You will see that your search has been added to the search strategy, along with :ME after it, to indicate a MeSH term.

Non MeSH
Some terms in the index are labelled '(Non MeSH)'. These terms are used by indexers to group headings in the MeSH tree structures, and thus are not index terms per se.

Because they are not true index terms and are not used to code individual records, Non-MeSH terms should only be used with the Explode this tree and Explode all trees search options.

2.8 Searching using field descriptors

Issue 2, 1998 introduced the capacity to search using field descriptors. Field descriptors are the code given to each field within a record, e.g. AU for author field, TI for title, etc. It is possible to search for terms using these field descriptors. This can be useful if you know the MeSH term you want to search for already.



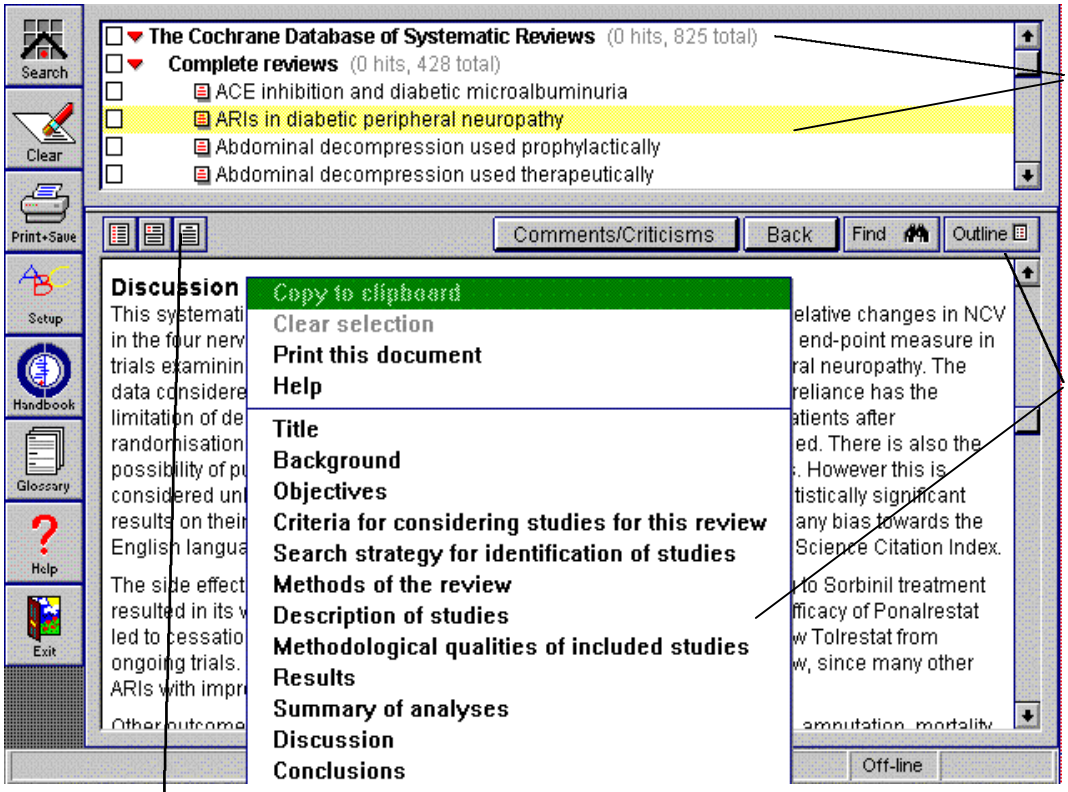
Note that to search for a two worded MeSH term using field descriptors, it is necessary to insert a hyphen between the words. Entering HIP-PROSTHESIS*:ME would explode the term.

Possible field descriptors to search are AU: author, TI: title, ME:MeSH term, AB: abstract and KY: keywords. For two worded terms it is necessary to link them with a hyphen (see the example above). If the hyphen is missed out, the search performed is the equivalent of comining the two words with AND.

2.9 Displaying and navigating round documents

Once you have completed your search, you will be returned to the index window, with the number of hits you have found displayed. To view the results of your search double click on the database name required and then double click on the name of the particular review/citation you wish to view. The document appears in the document window below. Reviews and abstracts are held as continuous documents on the Cochrane Library, to read the document you can simply use the windows vertical scroll bar or the outline button (see figure 2.10).

Figure 2.10 Navigating round documents



Double click on the database name and then on the short title to display the document in the lower window..

Click on other titles or use the up and down keys to move between documents.

Click on the outline button to navigate around the document. It reveals a list of sections in the document currently being displayed. You can click on the section you want to go to e.g. results or conclusions.

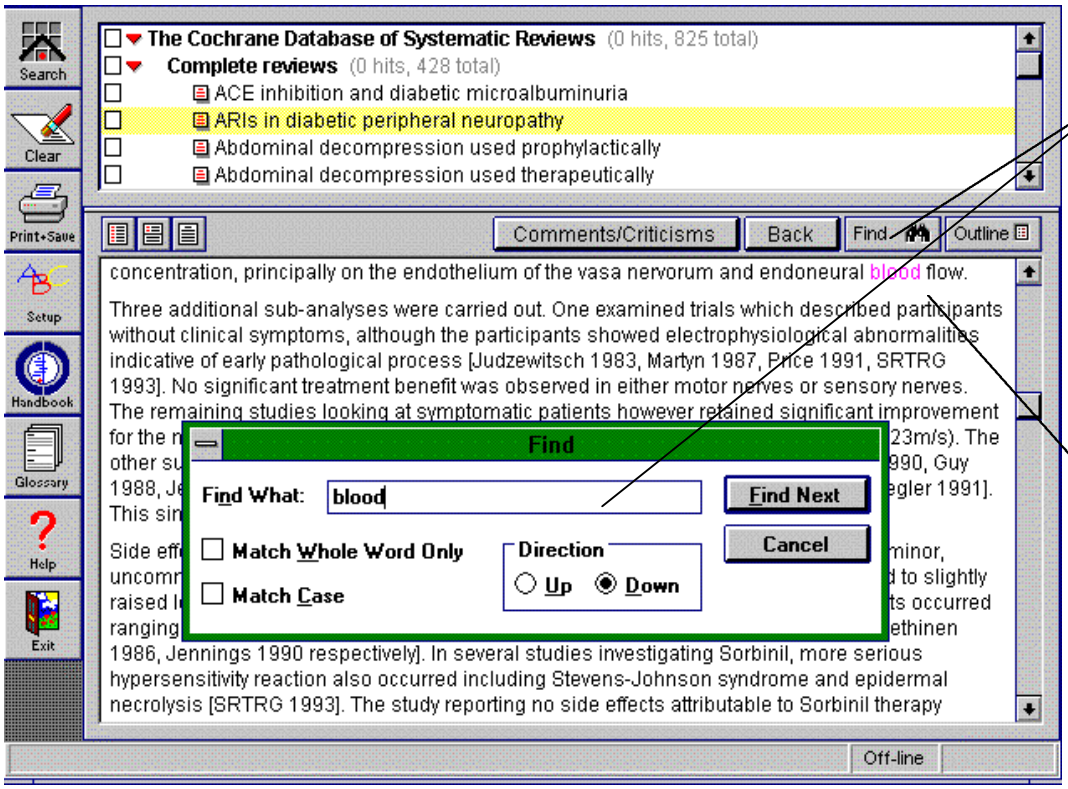
Click here to mazimise/minimise the document display area.

Moving around documents

To move quickly between sections use the outline button (see above). A list of document sections will appear. Clicking on your right mouse button whilst the cursor is over the document window produces the same feature.

The find button produces a search dialog which allows you search the current document for a key word.

Figure 2.11 The find button

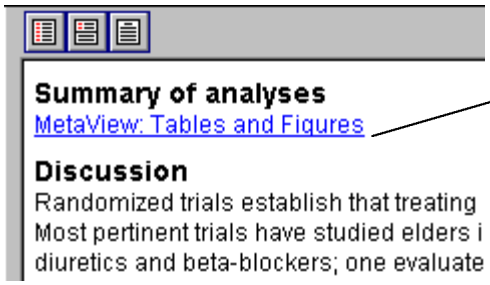


The find button brings up a short dialog box which allows you to search the current document for a single term.

The retrieved term is highlighted in the first line of the document window.

Displaying the CDSR Odds-ratio diagrams and tables

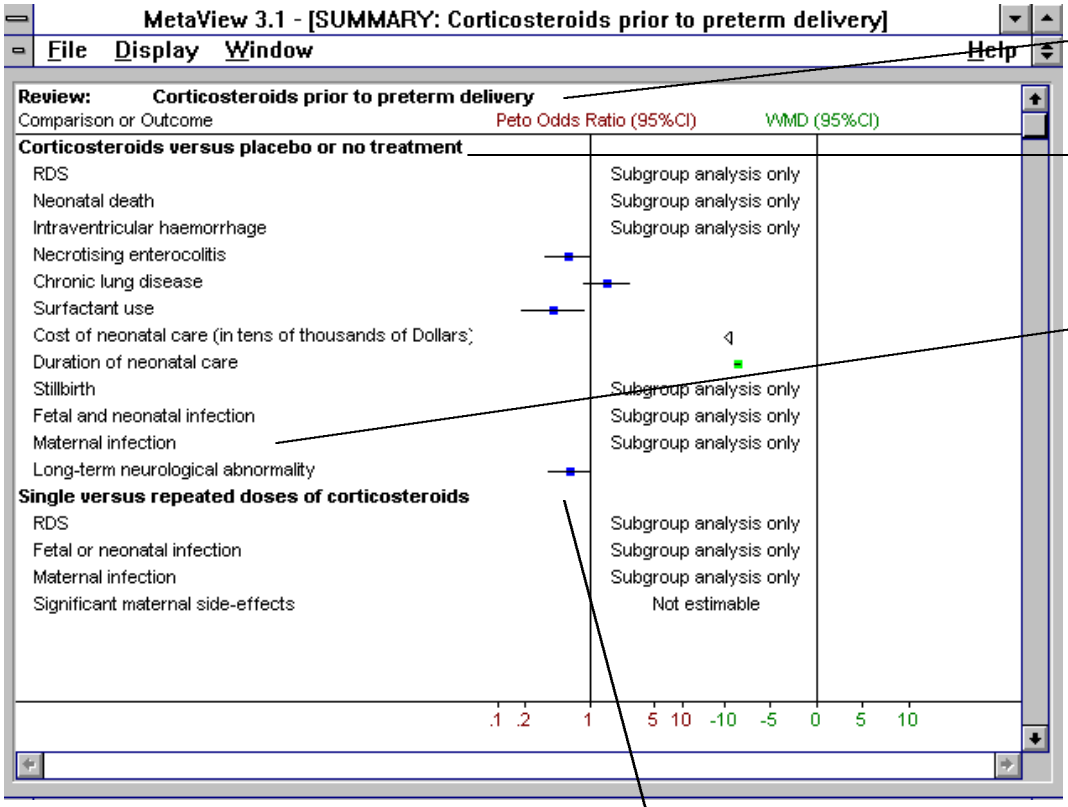
The CDSR database not only gives the full text of reviews but also includes summary tables and odds-ratio diagrams showing the analyses of results for each trial included in a review, each outcome considered and any meta-analysis of trials data. To display the summary of analyses data, use the 'right mouse' click or click the outline button, and go to the "Summary of Analyses" section of the review.



Double click on the blue underlined link to display the odds-ratio diagrams.

This will launch the Metaview software and present the summary of analysis table:

Figure 2.12 Odds-ratio diagram



The title of the review is always at the top of the diagram.

The comparisons looked at in this review are written in bold. In this review there are two comparisons.

The outcomes measures studied for each comparison are listed underneath in normal type.

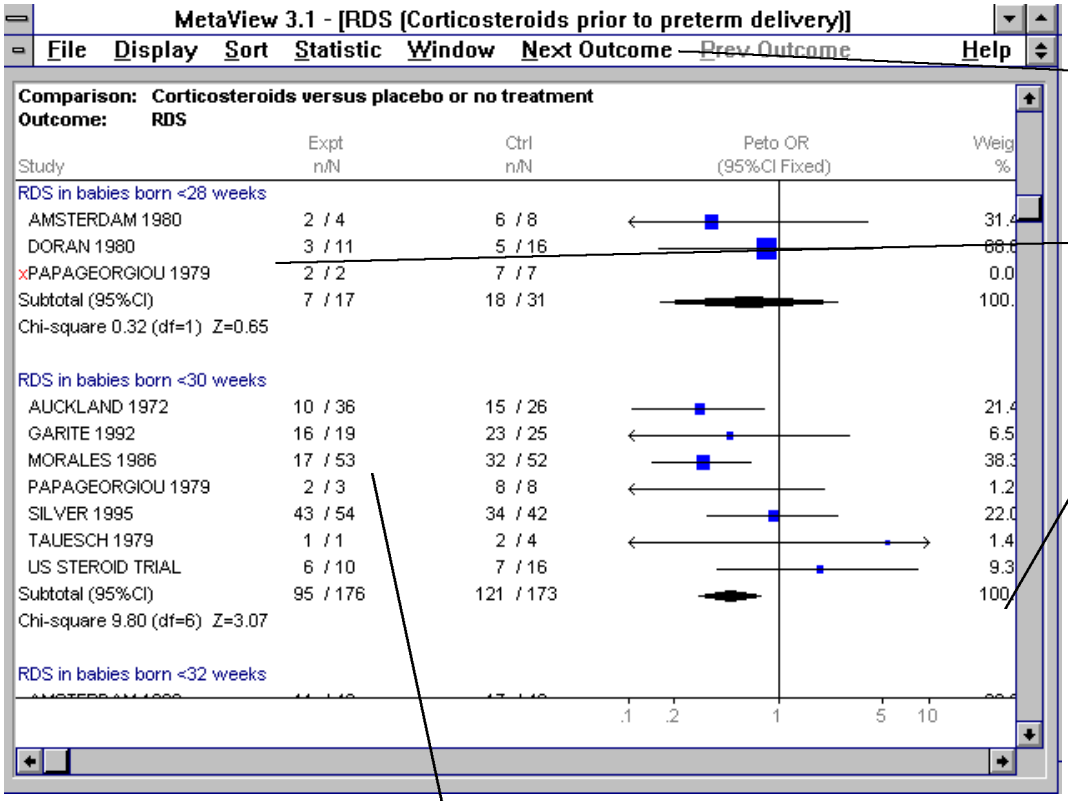
Double click on either an outcome or comparison line to display the detailed analysis for that outcome/comparison

The overall odds-ratio for each outcome is shown here, represented by a blue box, along with any confidence interval lines. In the summary screen this represents the meta-analysis result gained from combining the results of all the different trials included in the review, for that outcome. For continuous outcomes the results are given as WMD (weighted means differences) shown in the Cochrane Library by green boxes on a separate axis.

This first screen is a summary of all the analysis: it presents only the main comparisons and outcomes.This review of the use of corticosteroids prior to preterm delivery considers two comparisons: “single versus repeated doses of corticosteroids” and “corticosteroids versus placebo” and lists outcomes measured under each comparison. The odds-ratio diagram to the right on this summary screen shows, for each outcome, the meta-analysis of all the individual studies.

Double clicking on a particular comparison or outcome displays more detail and includes the results from each individual study. In the above example, the RDS outcome is further broken down according to week of pregnancy:

Figure 2.13 Detail of analysis



These menu options let you browse between the differnt outcome measures.

2 individual studies in this comparison examined this outcome. Papageriou 1979, is excluded from the analysis **for this outcome.**

Not all of the information is visible at first. Use the scroll bars at the bottom, as well as at the sides to view all the analyses.

Morales found that 17 out of 53 babies suffered from RDS in the experimental group, compared to 32 out of 52 in the control group. These results are then interpreted to produce the odds-ratio value, which is displayed further along to the right.

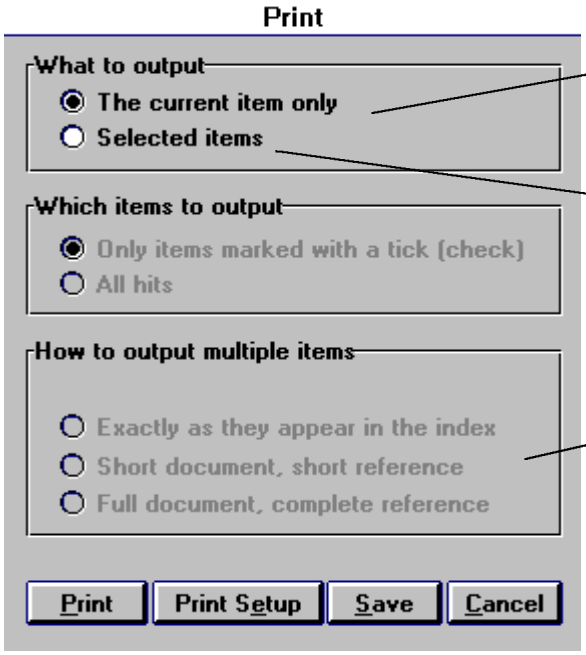
The Metaview menu options at the top of the odds-ratio diagrams allow you to tailor the display to include/exclude information. E.g. the display menu allows you to change the scale and confidence interval limits; the statistic menu allows you to change the statistic from odds-ratio to relative risk, if that is how you prefer your results to be represented as. Ther are also options to allow you to sort the individual studies by effect-size, weight or year.

Interpretation of the odds-ratio diagrams is dealt with in Section 3.

2.10 Printing and downloading

The 'print+save' button on the tool-bar will present the follwing dialogue box. You are presented with various options. You can choose to print/save individual documents or more than one document. You are also given options to vary your output.

Figure 2.14 The print/save dialogue box



Current item only will print out the document currently on display in the document window.

Selecected items allows you to print out more than one document at a time according to the number you have previously selected.

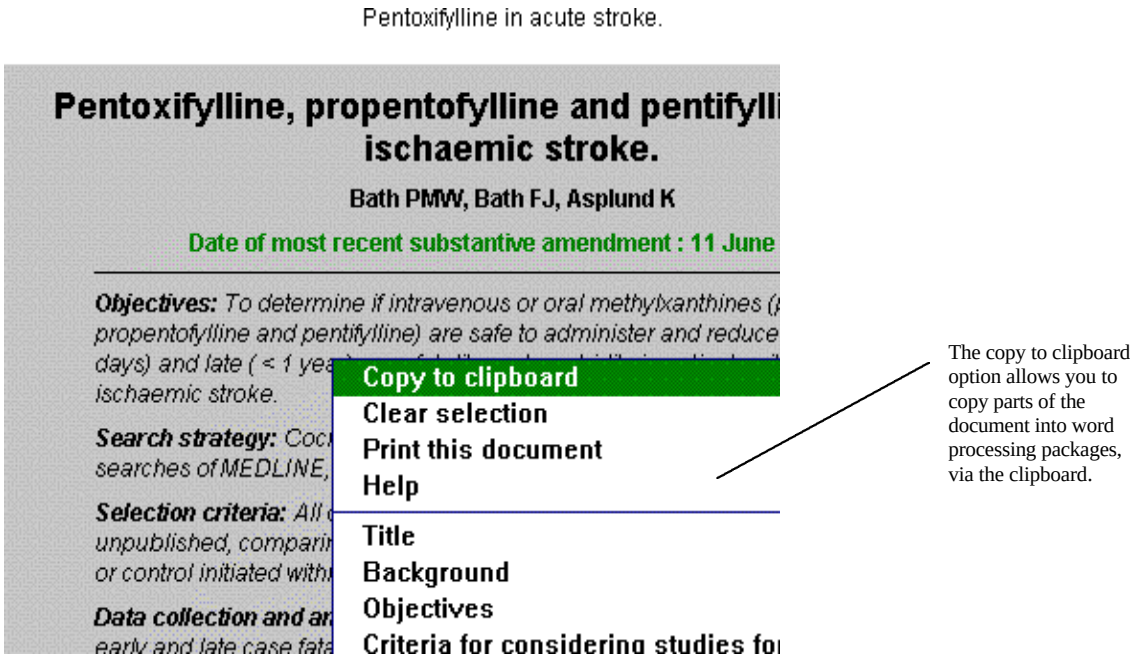
The three options at the bottom allow you to choose how you want your selection printed out; either as a list of titles, as they appear in the index window, as a short document, which for items in the CDSR is just the abstract, or the complete document. **Please bear in mind that for items in the CDSR, a complete document can be several pages long!**

At this point, you can either choose to print your selection out, or save it to a file.

Copying the Cochrane Library documents

You can copy the text of Cochrane Library documents by higlighting the text you want and then clicking on the outline button (or on the right mouse button) to bring up the menu shown below. Text can then be copyied to the clipboard, and pasted (control V) into documents, but text formatting such as bold and italic will not be preserved.

Figure 2.15 Copying to the clipboard



2.10 Self assessment exercises

To help you familiarise yourself with the various parts of the Cochrane Library, we have drawn up a list of short questions. The answers to these questions should be found either in the databases or the other information found in the Clib. Spend no more than two minutes on each. It is enough to say where the information can be found and how you got there.

1. Who is the administrator for the Canadian Cochrane Centre and what is its e-mail address?

2. From the Cochrane Collaboration Handbook find a list of clinical trials registers which might be used in searching for RCT studies

3. Is there a methods or field group working on health economics and who is the contact?

4. What are the sources of financial support of the Cochrane Schizophrenia Group?

5. Who is the statistical advisor for the Cochrane Cystic Fibrosis Group?

6. In the review of corticosteroids prior to preterm delivery - find a bibliographical reference for the AMSTERDAM 1980 trial.

7. What database is the register for the Cochrane Eyes & Vision group based on?

8. How many Reviews have been completed by the Eyes and Vision Group and how many Protocols are planned/in progress?

9. How many reviews can you find in the Database of Abstracts (DARE) on breast screening. Try this one with a free text search and then as a MeSH search. (Hint - looking at some records to see how they have been indexed can help you identify suitable MeSH terms.)

   What is the distinction between the Abstracts of Quality Assessed Reviews and Other Assessed Reviews?

10. Find one bibliographical reference on review methodology relating to *shmeta-analysis* (note the spelling is correct).

11. What is the title of H J Eysenck's 1994 paper in the British Medical Journal?

12. Find the review of extra vs intrauterine repair at ceasarean section:

    a. What outcome measures were investigated in trials of extra vs intrauterine repair at caesarean section?

    b. How many studies were included in this review and how many patients were involved in the trials?

    c. How should the review be referenced in a publication?

    d. What are the implications for practice?

Answers given at the end of section 3.